

Appl. No.: 10/616,429
Amdt. dated September 2, 2005
Reply to Office Action of June 6, 2005

Do Not
Enter
9/9/05
KRW

CLAIM AMENDMENTS

Please amend the claims to read as provided in the following claim listing:

1. 41. (Canceled)

42. (Currently amended) A method for steering a downhole drilling apparatus with respect to a geological bed boundary in an earth formation, said drilling apparatus including an electromagnetic propagation logging tool having a tool axis; a first transmitter antenna disposed within a plane oriented at a first angle with respect to the tool axis; a second transmitter antenna spaced apart from said first transmitter antenna along the tool axis and disposed within a plane oriented at a second angle with respect to the tool axis; a first receiver antenna located at a first receiver location along said tool axis between said first and second transmitter antennas, said first receiver antenna being oriented at a third angle with respect to said tool axis, said third angle being different from said first and second angles; a second receiver antenna located at a second receiver location along said tool axis between said first and second transmitter antennas, said second receiver location being different from said first receiver location, said second receiver antenna being oriented at a fourth angle with respect to said tool axis, said fourth angle being different from said first and second angles; and a processor in communication with said first and second transmitter antennas and said first and second receiver antennas; said method comprising the steps of:

(a) transmitting a first transmitted electromagnetic wave into said formation using said first transmitter antenna, wherein said first transmitted electromagnetic wave induces a first electric current in said formation, and wherein said first electric current generates a first induced electromagnetic wave in said formation;

(b) transmitting a second transmitted electromagnetic wave into said formation using said second transmitter antenna, wherein said second transmitted electromagnetic wave induces a second electric current in said formation, and wherein said second electric current generates a second induced electromagnetic wave in said formation;